

Appln No. 09/966,572
Amdt date December 29, 2003
Reply to Office action of September 25, 2003

Amendments to the Specification:

On page 1, lines 5-8, please replace with the following paragraph:

This application is based on and claims priority of Korean Patent Application Nos. 2000-56245 filed on ~~September 25, 2001~~ September 25, 2000 and 2001-36766 filed on June 26, 2001 in the Korean Industrial Property Office, the contents of which are incorporated herein by reference.

On page 14, lines 19-22, please replace with the following paragraph:

100g of LiCoO_2 powder having a 10 μm average diameter was added to the 5% ~~Al-isopropoxide~~ Al-isopropoxide solution followed by mixing for about 10 minutes to coat the powder with the solution. The wet mixture was allowed to stand for about 30 minutes to have the excess solvent ~~to be~~ evaporated.

Beginning on page 14, lines 23-24 to page 15-lines 1-6, please replace with the following paragraph:

The partially dried mixture was transferred to a furnace. The mixture was heat-treated in the furnace at 300°C for 10 hours under flowing air, and the heat-treated mixture was cooled in the furnace. The heat-treatment temperature was elevated to 300°C at a rate of 3°C/min. When the temperature of the furnace was 200°C, the heat-treated material was transferred into the air at ambient temperature and allowed to stand under atmosphere. Then, the cooled material was ~~grinded~~ ground and sieved to collect a powder and to use it as a positive active material coated with aluminum oxide.

Beginning on page 16, lines 22-24 to page 17-line 1, please replace with the following paragraph:

A coin-type half-cell was fabricated by the same procedure as in Example 1, except that a 5% of aluminum nitrate solution prepared by adding $\text{Al}(\text{NO}_3)_3$ into water, was used instead of the 5% Al-isopropoxide solution, ~~except that the~~ and the heat-treatment was performed at 500°C instead of 300°C.

Appln No. 09/966,572
Amdt date December 29, 2003
Reply to Office action of September 25, 2003

On page 17, lines 3-6, please replace with the following paragraph:

~~Coin-type~~ A coin-type half-cell was fabricated by the same procedure as in Example 1, except that a 5% aluminum nitrate solution prepared by adding $\text{Al}(\text{NO}_3)_3$ into water, was used instead of the 5% Al-isopropoxide solution, ~~except that the~~ and the heat-treatment was performed at 700°C instead of 300°C.

On page 19, lines 2-6, please replace with the following paragraph:

A coin-type half-cell was fabricated by the same procedure as in Example 1, except that a 10% boron ethoxide solution prepared by dissolving 10% B_2O_3 powder in 90% of ethanol was used instead of the 5% Al-isopropoxide solution, and ~~except that~~ the heat-treatment was performed at 500°C instead of 300°C.

On page 19, lines 8-12, please replace with the following paragraph:

A coin-type half-cell was fabricated by the same procedure as in Example 1, except that a 10% boron ethoxide solution prepared by dissolving 10% B_2O_3 powder in 90% ethanol was used instead of the 5% Al-isopropoxide solution, and ~~except that~~ the heat-treatment was performed at 700°C instead of 300°C.

Beginning on page 19, lines 20-23 to page 20-lines 1-4, please replace with the following paragraph:

The partially dried mixture was transferred to a furnace. The mixture was heat-treated in the furnace at 300°C for 10 hours under flowing air (first heat-treatment), and the heat-treated mixture was cooled in the furnace. The first heat-treatment temperature was elevated to 300°C at a rate of 3°C/min. When the temperature of the furnace was 200°C, the heat-treated material was transferred into the air at ambient temperature and allowed to stand under atmosphere. Then, the cooled material was ~~grinded~~ ground and sieved to collect a boron oxide coated LiCoO_2 powder.

On page 20, lines 9-17, please replace with the following paragraph:

The partially dried mixture was transferred to a furnace. The mixture was heat-treated in the furnace at 300°C for 10 hours under flowing air (second heat-treatment), and the heat-treated mixture was cooled in the furnace. The second heat-treatment temperature was elevated to

Appln No. 09/966,572
Amdt date December 29, 2003
Reply to Office action of September 25, 2003

300°C at a rate of 3°C/min. When the temperature of the furnace was 200°C, the heat-treated material was transferred into the air at ambient temperature and allowed to stand under atmosphere. Then, the cooled material was ~~grinded~~ ground and sieved to collect a powder and to use it as a positive active material coated with a first B₂O₃ layer and a second Al₂O₃ layer on the first layer.

On page 21, lines 1-4, please replace with the following paragraph:

A coin-type half-cell was fabricated by the same procedure as in Example 14, except that a 1% boron ethoxide solution was used instead of the 10% boron ethoxide solution, and ~~except that~~ the first and second heat-treatment were performed at 500°C instead of 300°C.

On page 21, lines 6-9, please replace with the following paragraph:

A coin-type half-cell was fabricated by the same procedure as in Example 14, except that a 1% boron ethoxide solution was used instead of the 10% boron ethoxide solution, and ~~except that~~ the first and second heat-treatments were performed at 700°C instead of 300°C.

On page 23, lines 9-17, please replace with the following paragraph:

~~20 cylindrical~~ Twenty cylindrical cells with 2000 mAh using the positive active materials according to Comparative Example 1 and Examples 15 to 17 were fabricated. Tests for the safety categories of burning, heat-exposure, and overcharging were performed. The burning test results are shown as the percentage of cells which burst when heated with a burner. The heat-exposure test results are shown as the duration of time at 150°C before the cell burst. The overcharging test results are shown as the percentage of the cells which leaked when they are overcharged at 1 C rate. The results are summarized in Table 1.